Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

35. (Currently Amended) A microscopy system for observing an object by plural observers, the system comprising:

at least one objective lens arrangement for receiving an object side beam emanating from an object plane and for transforming the object side beam into an image side beam;

a first ocular system arranged to enable a first observer to observe the object by looking into the first ocular system;

a second ocular system arranged to enable a second observer to observe the object by looking into the second ocular system; and

a controller, wherein

the first ocular system comprises:

at least one first ocular tube having at least one first ocular for generating an image of the object plane from the image side beam, and

at least one first image projector having a first display for superimposing an image displayed by the first display with a beam path of the first ocular system such that the image of the object plane is perceived by the first observer in superposition with the image of the first display; and

the second ocular system comprises:

at least one second ocular tube being distinct from the at least one first ocular tube and having at least one second ocular for generating an image of the object plane from the image side beam, wherein at least one optical setting of the first ocular system is adjustable independently of a corresponding optical setting of the second ocular system; and

the controller is configured to generate the image displayed by the first display of the first ocular system from a first input image based on the at least one optical setting of the first ocular system, and from a second input image independent of the at least one optical setting of the first ocular system; wherein the controller comprises an image combining unit for generating the image displayed by the first display.

36. (Previously Presented) The microscopy system according to claim 35, wherein the second ocular system further comprises at least one image projector having a display for superimposing an image displayed by the display with a beam path of the second ocular system such that the image of the object plane is perceived by the second observer in superposition with the image of the display of the image projector of the second ocular system.

37. (Previously Presented) The microscopy system according to claim 35, wherein the first ocular system comprises a first camera and the second ocular system comprises a second camera, and wherein the controller is configured to determine the at least one optical setting of the first ocular system based on a comparison of an image detected by the first camera with an image detected by the second camera.

38. (Previously Presented) The microscopy system according to claim 35, wherein the objective lens arrangement has an optical axis, wherein the first ocular tube of the first ocular system is rotatable about the optical axis,

wherein the at least one optical setting of the first ocular system comprises a rotational position of the first ocular tube about the optical axis, and

wherein the controller is configured to generate the image displayed by the first display of the first ocular system by rotating the first input image by a first image rotation angle determined in dependence of the rotational position of the first ocular tube.

39. (Previously Presented) The microscopy system according to claim 38, further comprising an angle detector for detecting an angle of the first ocular tube of the first ocular system relative to a housing of the objective lens arrangement, and wherein the controller is configured to determine the first image rotation angle based on the detected angle.

40. (Previously Presented) The microscopy system according to claim 38, wherein the first ocular system comprises a first camera and the second ocular system comprises a second camera, and wherein the controller is configured to determine the first image rotation angle based on a comparison of an image detected by the first camera and an image detected by the second camera.

41. (Previously Presented) The microscopy system according to claim 38, wherein the second ocular system further comprises at least one image projector having a display for

superimposing an image displayed by the display with a beam path of the second ocular system such that the image of the object plane is perceived by the second observer in superposition with the image of the display of the image projector of the second ocular system.

42. (Previously Presented) The microscopy system according to claim 41, wherein the second ocular tube of the second ocular system is rotatable about the optical axis,

wherein the optical setting of the second ocular system comprises a rotational position of the second ocular tube about the optical axis, and

wherein the controller is configured to generate the image displayed by the display of the second ocular system by rotating the first input image by a second image rotation angle determined in dependence of the rotational position of the second ocular tube.

43. (Previously Presented) The microscopy system according to claim 35, wherein the first ocular system comprises a first zoom system for changing a magnification of the image of the object plane generated by the first ocular system independently of a magnification of the image of the object plane generated by the second ocular system,

wherein the at least one optical setting of the first ocular system comprises the magnification of the image generated by the first ocular system, and

wherein the controller is configured to generate the image displayed by the first display of the first ocular system by scaling the first input image with a first scale factor determined in dependence of the magnification of the image generated by the first ocular system.

44. (Previously Presented) The microscopy system according to claim 43, further comprising a position sensor for detecting a setting of components of the first zoom system with respect to each other, and

wherein the controller is configured to determine the first scale factor based on the detected setting.

45. (Previously Presented) The microscopy system according to claim 43, wherein the first ocular system comprises a first camera and the second ocular system comprises a second camera, and wherein the controller is configured to determine the first scale factor based on a comparison of an image detected the first camera and an image detected by the second camera.

46. (Previously Presented) The microscopy system according to claim 43, wherein the second ocular system further comprises at least one image projector having a display for superimposing an image displayed by the display with a beam path of the second ocular system such that the image of the object plane is perceived by the second observer in superposition with the image of the display of the image projector of the second ocular system.

47. (Previously Presented) The microscopy system according to claim 46, wherein the second ocular system comprises a second zoom system for changing a magnification of the image of the object plane generated by the second ocular system independently of the magnification of the image of the object plane generated by the first ocular system,

wherein the optical setting of the second ocular system comprises the magnification of the image generated by the second ocular system, and

wherein the controller is configured to generate the image displayed by the display of the second ocular system by scaling the first input image with a second scale factor determined in dependence of the magnification of the image generated by the second ocular system.

48. (Previously Presented) The microscopy system according to claim 35, wherein the first ocular system is a binocular system.

49. (Previously Presented) A microscopy method for displaying a magnified image of an object plane to plural observers, the method comprising:

light optically generating a first image of the object plane using first optics;

light optically generating a second image of the object plane using second optics, the second optics being distinct from the first optics,

wherein the first optics has at least one optical parameter which is adjustable independently of a corresponding optical parameter of the second optics;

wherein the method further comprises:

electronically generating, on a first display, at least one first representation of a first input image based on the at least one optical parameter of the first optics;

electronically generating, on the first display, at least one second representation of a second input image independent of the at least one optical parameter of the first optics; and

displaying the first image of the object plane superimposed with the electronically generated first representation of the first input image and the electronically generated second representation of the second input image.

50. (Previously Presented) The microscopy method according to claim 49, wherein at least a portion of the first optics is rotatable about an axis, and

wherein the electronically generating of the at least one first representation comprises rotating the first input image based on a rotational position of the portion of the first optics.

51. (Previously Presented) The microscopy method according to claim 49, wherein a magnification of the first optics is changeable, and

wherein the electronically generating of the at least one first representation comprises scaling of the first input image based on the magnification of the first optics.

52. (Previously Presented) The microscopy method according to claim 49, further comprising electronically generating, on a second display, at least one further representation of the first input image independently of the at least one optical parameter of the first optics, and displaying the second image superimposed with the at least one further representation of the first input image.

53. (Previously Presented) The microscopy method according to claim 49, further comprising electronically generating, on a second display, at least one representation of the

second input image independently of the corresponding optical parameter of the second optics, and displaying the second image superimposed with the at least one representation of the second input image.

54. (Previously Presented) The microscopy method according to claim 53, further comprising electronically generating, on the second display, at least one further representation of the first input image independently of the at least one optical parameter of the first optics, wherein the displaying the second image superimposed with the at least one representation of the second input image further comprises displaying the second image superimposed with the at least one further representation of the first input image.